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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,157	07/24/2003	Jose Angel de la Rosa	100200997-1	9699

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FORT COLLINS, CO 80527-2400

EXAMINER

JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/626,157	Applicant(s) DE LA ROSA ET AL.	
	Examiner Jaworski Francis J.	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-17 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 9 (original) is again rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (US4222274) which teaches an apparatus and method for an external ultrasound transducer ring for sensing acoustic reflectivity parameters which is movable by means of rotational and elevational motors 46, 66 respectively in order to derive a 3D image set of an object by combination of individual ultrasound image scans under control of computer processor 188. Johnson is capable of imaging surface features of the breast since the breast including its surface is part of the investigated volume within the three-dimensional scan apparatus.

Claims 10-12 and 24 – 26 are again rejected under 35 U.S.C. 102(b) as being anticipated by Seo (US6685644) which teaches method and structure for an external ultrasound imaging device 11, internal ultrasound imaging device 26 and a processor 18 which combines image portions as shown in Fig. 5 to create a composite 3D image display of the object including manipulable presentations as in fig. 10. The adventitia and artery immediate surroundment would be understood to be external surface features of the artery proper by the artisan.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 13 – 14, 16, 18-23 as amended are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (US4222274, of record), further in view of Teboul (US 5709206). Johnson as noted teaches an apparatus and method for an external ultrasound transducer ring for sensing acoustic reflectivity parameters which is movable by means of rotational and elevational motors 46, 66 respectively in order to derive a 3D image set of an object by combination of individual ultrasound image scans under control of computer processor 188. Whereas Johnson does not explicitly state that the system is adapted so that external feature data can be gathered, it would have been obvious in view of Teboul that during mammography external or surface features (nipple, areolae, external duct entrances) would be gathered among the imaged data..

Claims 3, 7 as amended are rejected under 35 U.S.C. 103(a) as being obvious over Seo (US6685644, of record) further in view of Hossack et al (US6423002). Seo as earlier noted teaches method and structure for an external ultrasound imaging device 11, internal ultrasound imaging device 26 and a processor 18 which combines image portions as shown in Fig. 5 to create a composite 3D image display of the object including manipulable presentations as in fig. 10. It would have been obvious in view of Hossack et al to consider the imaging device 11 as imaging the external surface of the vascular object being imaged since the artisans refer to vessels or vascular chambers as having external surfaces, see col. 9 lines 57 – 65 thereof.

Claims 4 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo in view of Hossack et al, further in view of Johnson or Dick et al (US4233988). Since Seo uses conventional external ultrasound imaging, it would have been obvious in view of Johnson to externally image with a ring imager or in view of Dick et al to image with an imaging ring in order to compile an external 3D image of an object.

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo in view of Hossack et al, further in view of Martin et al (US6275722). Whereas Seo does not mention MRI devices, it would have been obvious in view of Martin et al to reconstruct a composite 3D image using an internal MRI coil since this would allow the external imager to positionally reference the images.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claim 3 above, and further in view of Desai (US5433198)..

Whereas the former merely suggests in col. 1 that X-ray fluoroscopy may be used to track a probe tip, it would have been obvious in view of the latter to employ internal x-ray visualization in order to localize a probe tip such as in Seo where ultrasound is performing the main internal scan.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Teboul as applied to claim 13 above, and further in view of Martin et al for reasons analogous to that set forth above..

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Teboul, further in view of Martin et al as applied to claim 15 above, and further in view of Seo. Whereas the former are silent as to overlay of images, it would have been obvious in view of the latter to blend-overlay internal and external images in order to obtain the adaptive benefits of both modes.

#### Response to Arguments

Applicants arguments are not considered to be persuasive since in the case of breast imaging as readable against the claims a waterbath or contact scanner is capable of detecting features characterized as external in the sense of being also externally visible, and in the case of intravascular ultrasound, an image of a vessel surface is considered to be of an exterior surface feature of the vessel.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

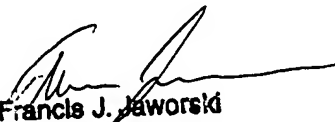
Art Unit: 3737

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

09012005

  
Francis J. Jaworski  
Primary Examiner